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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,113	03/31/2000	Wolfgang Renz		2414

7590 04/10/2002

SCHIFF HARDIN & WAITE
PATENT DEPARTMENT
7100 SEARS TOWER
233 S. WACKER DRIVE
CHICAGO, IL 60606-6473

EXAMINER

FETZNER, TIFFANY A

ART UNIT	PAPER NUMBER
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2862

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,113

Applicant(s)

Renz et al.,

Examiner

Tiffany A. Fetzner

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Feb 28, 2002

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-13 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other:

Art Unit: 2862

DETAILED Final ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The objection to the disclosure from the November 7th 2001 office action is **rescinded** in view of applicant's arguments in the February 28th 2002 response; which successfully overcomes the objection without adding new matter.

3. ***Claim Rejections - 35 USC § 103***

4. The rejection of **Claims 1-13** under **35 U.S.C. 103(a)** as being unpatentable over **McArthur** US patent 2,735,074 issued Feb. 14th 1956; from the November 7th 2001 office action are **rescinded** in view of applicant's arguments in the February 28th 2002 response.

5. The rejection of **Claims 1-13** are rejected under **35 U.S.C. 103(a)** as being unpatentable over **Oppelt et al.**, US patent 5,153,517 issued Oct. 6th 1992, in view of the established case law that Duplicating parts for a Multiplied Effect, is not a patentably distinguishing feature. *St. Regis Paper Co. V. Bemis Co. Inc.*, 193 USPQ 8, 11 (7th cir. 1977); or alternatively in view of Figure 6 from **McArthur** US patent 2,735,074 issued Feb. 14th 1956; from the November 7th 2001 office action are **rescinded** in view of applicant's arguments in the February 28th 2002 response. [See page 8 paragraph 3 through page 11 paragraph 1 of the February 28th 2002 response.]

Claim Rejections - 35 USC § 102

Art Unit: 2862

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The rejection of **Claims 1-13** rejected under **35 U.S.C. 102(b)** as being anticipated by **McArthur** US patent 2,735,074 issued Feb. 14th 1956; from the November 7th 2001 office action are **rescinded** in view of applicant's arguments in the February 28th 2002 response.

8. Amended **Claims 1-13** are rejected under **35 U.S.C. 102(b)** as being anticipated by **Edelstein** US patent 4,620,155 issued October 28th 1986. The examiner notes that the **Edelstein** reference was noted, as prior art in the November 7th 2001 office action; and is now applied against applicant's claims in view of applicant's amendments to the claims, and the arguments presented in the February 28th 2002 response; which although persuasive with respect to the **Oppelt et al.**, and **McArthur** references, do not overcome the applicability of the **Edelstein** reference which shows and suggests applicant's amended limitation to **claim 1**, therefore a final rejection is proper.

9. With respect to **Claim 1**, **Edelstein** teaches an NMR Antenna subsystem that has a plurality of co-planar surface coils, each comprised of a plurality of segments and elements. [See abstract, Figure 3 which is interpreted broadly as a multi element NMR antenna, because an NMR application is suggested in the abstract, and col. 3 lines 3-36] **Edelstein** suggests and shows "a plurality of antenna elements" (i.e. segmental elements 23a-h) , [See Figure 3] "each antenna having an element beginning" (i.e. interpreted as the radial inner end point across (i.e. opposite)

Art Unit: 2862

from where components 29a through 29h connect to segments 23a-h) “and an element end” (i.e. interpreted as the radial outer end point where components 29a through 29h connect to segments 23a-h) [See Figure 36]; said antenna elements being disposed radially relative to a center axis so as to proceed outwardly from the respective element beginnings to the respective element ends”; [See Figure 3] “and exhibiting cyclical symmetry from antenna element to antenna element;” [See Figure 3] “said antenna elements (i.e. the segmented elements 23a-h) “being at least magnetically coupled with each other,” [See Figure 3, col. 2 lines 18-51] ”and said plurality being at least five” [See Figure 3 where at least 8 segmented antenna elements are shown].

10. With respect to **Claim 2**, **Edelstein** shows and suggests that “the respective element beginnings and the respective element ends are also connected to ground”. [See Figure 3 components 29a through 29h] The same reasons for rejection, that apply to **claim 1** also apply to **claim 2**.

11. With respect to **Claim 3**, **Edelstein** shows, teaches and suggests that “said antenna elements are electrically coupled to each other.” [See Figure 3, components 23a through 27h; col. 4 lines 13-29; and the entire reference in general.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 3**.

12. With respect to **Claim 4**, **Edelstein** shows, and suggests from the diagram of Figure 3 that “the respective element beginnings are electrically connected to each other via a ring-shaped connecting element.” [See Ring 24 which, connects to elements 23a-h through components 22a-c; col. 3 line 59 through col. 7 line 14.] The same reasons for rejection, that apply to **claims 1, 3** also apply to **claim 4**.

Art Unit: 2862

13. With respect to **Claim 5**, **Edelstein** teaches, shows, and suggests from the diagram of Figure 2, that in the prior art ends 11a and 11b are “electrically connected to each other via a ring-shaped connecting element, component 11” [See Prior Art Figure 1 of **Edelstein**] The examiner also notes that because the angulated segments 23a-h form a ring around a radially centered origin point and electrical connections between each of the elements 23a-h are shown in Figure 3, that **Edelstein** also teaches, shows, and suggests from the diagram of Figure 3, that “the respective element ends are electrically connected to each other” as “a ring-shaped connecting element.” The examiner also notes that inner ring 24 formed by components 24a-d also electrically connects to the ends of elements 23a-h via electrical connections [See Figure 3, col. 3 line 59 through col. 7 line 14.] The same reasons for rejection, that apply to **claims 1, 3** also apply to **claim 5**.

14. With respect to **Claim 6**, **Edelstein** also teaches, shows, and suggests from the diagram of Figure 3, that “the respective element beginnings are electrically connected to each other via a first ring-shaped connecting element and wherein the respective element ends are electrically connected to each other via a second ring shaped connecting element. [See Figure 3 col. 3 line 59 through col. 7 line 14, and the rejection reasons given in the rejection of **claim 5**] The same reasons for rejection, that apply to **claims 1, 3, 5** also apply to **claim 6**.

15. With respect to **Claim 7**, **Edelstein** shows, and suggests from the diagram of Figure 3, that “each of said antenna elements has two branching element ends.” [See Figure 3] The same reasons for rejection, that apply to **claim 1** also apply to **claim 7**.

Art Unit: 2862

16. With respect to **Claim 8**, **Edelstein** shows, and suggests from the diagram of Figure 3, that “the respective element beginnings define an element beginning plane and wherein the respective element ends defines an element end plane, and wherein said element beginning plane and said element end plane are parallel to and spaced from each other.” [See Figure 3] The same reasons for rejection, that apply to **claim 1** also apply to **claim 8**.

17. With respect to **Claim 9**, **Edelstein** shows, and suggests from the diagram of Figure 3, that “the respective antenna elements are linear.” [See Figure 3] The same reasons for rejection, sh that apply to **claims 1, 8** also apply to **claim 9**.

18. With respect to **Claim 10**, **Edelstein** shows, and suggests from the diagram of Figure 3, that “the respective antenna elements define respective line directions, said line directions intersecting said center axis at a common point”, [See Figure 3 center point 20'c which is the center of angulated ring 23 and inner ring 24. Additionally, Figure 3 suggests that all the segmented components have the same central axis point.] The same reasons for rejection, that apply to **claims 1, 8**, also apply to **claim 10**.

19. With respect to **Claim 11**, **Edelstein** teaches, shows, and suggests from the diagram of Figure 3 “a grounding plate disposed parallel to said element beginning plane and said element end plane, and said common point being disposed in said grounding plate.” [See Figure 3]. The same reasons for rejection, that apply to **claims 1, 8, 10** also apply to **claim 11**.

20. With respect to **Claim 12**, **Edelstein** teaches, shows, and suggests, from the diagram of Figure 3, a “grounding plate disposed parallel to said element beginning plane and said element

Art Unit: 2862

end plane.” [See Figure 3] The same reasons for rejection, that apply to **claims 1, 8**, also apply to **claim 12**.

21. With respect to **Claim 13**, **Edelstein** shows, and suggests, from the diagram of Figure 3 that the plurality of angulated antenna segments is 8, and a plurality of 8 angulated segments is inherently “divisible by 4”. Therefore, **Edelstein** teaches, shows, and suggests, that the plurality of antenna segments “is divisible by 4”. The same reasons for rejection, that apply to **claim 1**, also apply to **claim 13**.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

24. Prior Art of Record

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2862

- A) **McArthur** US patent 2,735,074 issued Feb. 14th 1956;
- B) **Oppelt et al.**, US patent 5,153,517 issued Oct. 6th 1992;
- C) **Hashoian et al.**, US patent 5,168,230 issued December 1st 1992. [See Figures 1, 2, 4 and the entire disclosure in general, since this reference is similar to, and cites the prior art **Edelstein** reference, the examiner suggests applicant review this reference in preparation for any future response.]
- D) **Prammer et al.**, US patent 6,268,726 issued July 31st 2001, filed January 15th 1999. [See Figures 4, 22a, 22b, 25, 26].
- E) **R.L. Barrish et al.**, US patent 2,281,404 issued April 28th 1942.
- F) **Pissanetzky et al.**, US patent 5,659,281 issued August 19th 1997. [See Figures 3a, 3b].
- G) **Slade** US patent 6,215,304 B1 issued April 10th 2001, filed January 19th 1999 with a priority date of January 21st 1998. [See Figure 3]

Conclusion

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is (703) 305-0430. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm., and on alternate Friday's from 7:00am to 3:30pm.

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (703) 305-4816. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3432 .

Art Unit: 2862

28. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0956.

Tiffany A. Feyner

TAF

April 5, 2002

Edward Lefkowitz
EDWARD LEFKOWITZ
PRIMARY EXAMINER